EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	IL D062340641

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Mobil Chemical Corp., Phosphorous Div. - Depue Plant	Depot and Marquette Streets

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
DePue	IL	61322	Bureau	011	18

09 COORDINATES LATITUDE	LONGITUDE	Topo map: DePue Quad. 7.5 min series P.R 1979
41° 19' 40.0"	089° 18' 05.0"	SW¼, NE¼ Sec 35, T. 16 N R. 10 E.

10 DIRECTIONS TO SITE (Starting from nearest public road)
I-80 to the Route 89 exit. Head south on Route 89 to Route 29 and head west on Rte 29. Route 29 passes DePue. Take the "main drag" into DePue. Entrance to Mobil Chemical Corp. & New Jersey Zinc are off the "main drag."

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Mobil Chemical Corp., Phosphorous Div.	P.O. Box 26683

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Richmond	VA	23261	(804) 798-4291

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Mobil Chemical Corp - Phosphorous Div. - Depue Plant	P.O. Box 674 Depot and Marquette Streets

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
DePue	IL	61322	(815) 447-2141

13 TYPE OF OWNERSHIP (Check one)
■ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER. _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
■ A. RCRA 3001 DATE RECEIVED: 8/18/80 (MONTH DAY YEAR) ■ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: 6/9/81 (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
■ YES ☐ NO DATE MANY / / (MONTH DAY YEAR)

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ■ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
■ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
Mobil as owner: 1967 (BEGINNING YEAR) Present (ENDING YEAR) ☐ UNKNOWN
New Jersey Zinc previous owner.

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Sulfuric acid (product & "ingredient") Corrosive / toxic / reactive
Phosphoric acid (product & "ingredient") - Corrosive / reactive
Radioactive material - calcinated phosphate rock & catalysts (vanadium)
Heavy metals - zinc wastes, waste from fertilizer production - Toxic / persistent

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Environment: Groundwater, surface water, soil contamination, damage to flora and fauna
Population: Air contamination, contamination of sewers, worker exposure for acid spill cleanups

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Chuck Corley	Rockford office - water pollution Illinois Environmental Protection Agency	(815) 987-7404

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
			( )	/ / (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IL | 02 SITE NUMBER: IL D062340641

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ■ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ■ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000 — 04 NARRATIVE DESCRIPTION
This potential is due to past operations at the site by New Jersey Zinc Division of Gulf & Western Industries, Inc. They make zinc dust. In addition, heavy metal contamination may also come from the manufacturing of fertilizers. These elements are lost in processing the phosphate. There may be contamination due to acid spills which seem to happen regularly at the site; however, the acids are not persistent.

01 ■ B. SURFACE WATER CONTAMINATION — 02 ■ OBSERVED (DATE: Nov 6, 1978) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000 — 04 NARRATIVE DESCRIPTION
There has been a past history of acid spills at the site due to careless transfers from storage to trucks, failure in pipes, pipe joints, cut-off valves, or leaks in suction lines. On Jan. 19, 1979, 27 tons of partially neutralized sulfuric acid spilled due to a leak in the suction line of their acid pump. Monitoring of Lake DePue could not take place due to high snow drifts. It seems after every major spill an alarm or other monitory instrument is installed, showing possible poor design criteria and parameters.

01 ■ C. CONTAMINATION OF AIR — 02 ■ OBSERVED (DATE: 5/15/80) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000 — 04 NARRATIVE DESCRIPTION
This was due to a spill of concentrated sulphuric acid which enter the sewer system. The operator at the DePue Sewage Treatment Plant was forced to leave the plant when the acid hit the plant. The acid also reacted with the product remaining after zinc ore is roasted and created H_2S gas. This gas traveled through the sewer lines and escaped into basements - 1 person died and 2 injured. Acid spills still could create problems at the site.

01 ■ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ■ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000 — 04 NARRATIVE DESCRIPTION
This potential is due to the manufacturing of sulfuric acid at the site. Due to the problem of inoperative alarms and other things; if a spill of concentrated sulfuric acid comes into contact with a moderately strong oxidizing agent, a explosion could result at the site

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

NONE

01 ■ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ■ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: ~50 (Acres) — 04 NARRATIVE DESCRIPTION
This is due to the past activities of New Jersey Zinc Co. at the site. There may be nitrate contamination; however, this is not a priority pollutant. There is also gob pile composed of residues from smelting operation on New Jersey Zinc property that has been eroding.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

NONE - site is located very closely to Lake DePue so the groundwater flow is in that direction. Municipal wells for DePue are located in bedrock (1490 ft deep) and look from the topo map to be upgradient of the site

01 ■ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ■ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 117 — 04 NARRATIVE DESCRIPTION
This potential is due the spills that seem to happen almost all the time at the site and the workers who must react to the situation. Workers responding to a spill of hot, concentrated sulfuric acid should have on SCBA's, rubber overclothing, and goggles. Phosphoric acid - rubber overclothing (includes gloves) and goggles; if contact with metals, SCBA necessary due to toxic fumes.

01 ■ I. POPULATION EXPOSURE/INJURY — 02 ■ OBSERVED (DATE: 5/15/80) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000 — 04 NARRATIVE DESCRIPTION
1 woman dead and 2 people were injured due to a spill; however, this accidental death was due to "synergistic" effects of present and past site use. New Jersey Zinc manufactures zinc dust and apperently some zinc waste got into the sewer system and when a spill of concentrated sulfuric acid occurred, H_2S gas was formed. This gas (H_2S) traveled through the sewer system and escaped into basements.

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POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IL | 02 SITE NUMBER: IL 0062340641

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ■ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Spills of acids surely have killed any vegetation in and around the plant and lake outlet areas. There has been no proof; however, it seems that there is no importance attached to these situations. Fauna (fish) seem to be more important than the aesthetic flora.

01 ■ K. DAMAGE TO FAUNA — 02 ■ OBSERVED (DATE: 8/74) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
In August, 1974, Mobil Chemical Corp. caused a major fish kill (~188,000 fish) in Lake DePue. Mobil Paid $75,000 to the Dept. of Conservation for damages. Mobil then developed an effluent control program to prevent spills entering Lake DePue; however, this program is somewhat of a failure. There have been several other spills into the lake, but no kills.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

NONE - due to the type of contaminants at the site

01 ■ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ■ OBSERVED (DATE: 5/15/80) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000 — 04 NARRATIVE DESCRIPTION
The spill of May 15th, 1980 was a major one for concentrated sulfuric acid. There have been other acid spills (phosphoric & sulfuric) at the site due to O/M practices at the plant.

01 ■ N. DAMAGE TO OFFSITE PROPERTY — 02 ■ OBSERVED (DATE: 5/15/80) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
The major damage done to offsite property was the shut-down of the DePue Sewage Treatment plant.

01 ■ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ■ OBSERVED (DATE: 5/15/80) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION NOTE: Possible contamination of sewers by New Jersey Zinc - see POPULATION SECTION!
The spill of 5/15/80 shut-down the DePue Sewage Plant and contaminated the sewer lines in town. Measures have been taken to prevent future contamination by removing and plugging all sewer lines and manholes in the sulfuric & phosphoric acids manufacturing areas, along with placing automatic monitoring gear in the remaining sewer lines on site.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

NONE

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
Seepage of groundwater from gypsum storage area and clearwater pond - enters lake DePue thru outfall 002. Problems with pH, TDS, fluoride, and ammonia nitrogen limitations of NPDES permit.
Outfall 001 - effluent discharge from "non-contact" cooling water & boiler feedwater treatment discharge - problems meeting TSS limitation for NPDES permit.

III. TOTAL POPULATION POTENTIALLY AFFECTED: ~1000

IV. COMMENTS
Gulf & Western Industries, Inc.'s New Jersey Zinc Co. Division owned the site prior to Mobil. For a time Mobil leased part of the plant before buying it from New Jersey Zinc. Past site operations by New Jersey Zinc may be contributing to site problems. New Jersey Zinc still has an operation going on adjacent to Mobil.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
Illinois E.P.A. files - Rockford Office

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	IL D 062340641

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ■ A. SOLID
- ☐ B. POWDER, FINES
- ■ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ■ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

TONS 6098100
CUBIC YARDS _____
NO OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ■ A. TOXIC
- ■ B. CORROSIVE
- ■ C. RADIOACTIVE
- ■ D. PERSISTENT
- ■ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ■ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		oil sludges
OLW	OILY WASTE	Unknown		Oils
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS	Unknown		salts & catalysts (slightly radioactive)
ACD	ACIDS	Unknown		inorganic acid manufacturing
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Illinois Environmental Protection Agency (I.E.P.A) files - Rockford office

ecology and environment, inc.
223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL. 312-663-9415
International Specialists in the Environmental Sciences

DATE : July 13, 1983 review

TO : File/USEPA Region V

FROM : Claude E. Mays, III/Environmental Scientist

SUBJECT: Preliminary Assessment

Illinois/TDD#R5-8212-01A-153
DePue/Mobil Chemical Corporation -
Phosphorous Division - DePue Plant
ILD062340641

Attached is EPA's Preliminary Assessment Form 2070-12 for the above referenced site.

Primary information was gathered from the following source(s):

1. Illinois Environmental Protection Agency file, Rockford, Illinois
2.
3.
4.

Information indicates the following responsible parties should be listed. They are listed here because of space limitations:

1. The New Jersey Zinc Company, Division of Gulf and Western Industries, Inc.
2.
3.
4.
5.
6.

Presently, data gaps or no verification exists in the following key area(s):

1. Hydrogeology

2. Waste quantities

3. Past paractices of New Jersey Zinc

4.

5.

A review of the available data indicates that additional information will be necessary to assess the impact(s) on:

1. Soil contamination

2. Groundwater contamination

3.

4.

5.

Suggested methods/sources for obtaining additional information are:

1. On site inspection - take soil samples for heavy metals

2. If sample results show elevated levels of heavy metals hydrogeological study.

3.

4.

Notice of an apparent need for emergency action was transmitted to N/A on N/A by N/A.

SUMMARY OF APPROVAL OF SITE STRATEGY
for the
New Jersey Zinc Site

The strategy is to assist the State of Illinois in its efforts to compel the Site's Potentially Responsible Parties (PRPs) to address the site condition. Under the strategy, the PRPs would be given an opportunity to enter into an agreement with the State to remediate the Site.

Should the PRPs fail to enter into a timely and U.S. EPA/IEPA-acceptable agreement, U.S. EPA would consider using federal authority to compel action at the Site. In the event that the Site Assessment Team (SAT) believes a substantial change in the approved strategy is needed, it will meet and petition the Region V RDT for approval of a change in strategy.

Site Background

The Site is an inactive zinc smelting facility encompassing an area of about 810 acres. New Jersey Zinc Corporation operated the facility for a zinc smelting operation. New Jersey Zinc Corporation, which is now called Zinc Corporation of America, currently owns approximately 60 acres of the Site. Mobil Mining and Minerals Company (Mobil) owns approximately 750 acres of the Site including rights to an adjacent lake, Lake DePue. Mobil used the facility to produce diammonium phosphate fertilizer and sulfuric acid.

The Site is bordered on the north by commercial farmland; to the east by the Village of DePue and an unnamed tributary on the Negro Creek, to the south by the Village of DePue and Lake DePue (a backwater lake of the Illinois River); and to the West by the Village of DePue.

Site Contaminant Sources and Areas

Contamination at the Site is generally the result of the waste management activities by the facility owner/operators. Significant sources of contamination are the gypsum waste pile (northern part of the Site), Lithophone waste pile (a white pigment consisting of zinc sulfide and barium sulfate located in the center of facility), Zinc Slag waste pile (eastern portion), Zinc Smelter waste pile (southeast portion) and two Mobil Lagoons (southern part of facility). The majority of the facility is slag-filled.

The facility activities have contaminated the sediments and surface water of Lake DePue, sediments of the creek flowing through the facility, facility soils, and residential soils. Additionally, it is very likely that the ground water has been contaminated by the facility due to run-off.

A draft Health Assessment indicates that while residential soils appear to have been contaminated, further study may be necessary to clearly characterize residential soils. In addition, a preliminary ecological assessment for the Site indicates that the contaminants at the Site have caused environmental damage.

The HRS scoring package has very recently been submitted to U.S. EPA and is under review. It is anticipated that the U.S. EPA review will be completed by August.

Approved Strategy

U.S.EPA will issue information requests pursuant to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 104 (e) as soon as possible.

The response will be managed as a "State Enforcement-lead" site utilizing State authority to pursue a PRP clean up. Funds for sampling and analysis of Site contaminants, as well as, the development of remediation alternatives and cost estimates have been expended. This work is being performed by the TAT contractor at modest cost. This work should continue.

The "State Enforcement" approach will be managed as follows:

1. 30 days after RDT strategy approval, IEPA will submit Statements of Works (SOWs) for each media to be addressed. The SOWs may include: RDT = 30 days

    a. Dust Suppression for the facility;

    b. Abatement of contaminated surface water discharges to Lake DePue; and

    c. Focused RI/FS for the (a) closure of the waste piles, Site soils, and lagoons possibly managing Site wastes in a on-site landfill, (b) residential soils and (c) surface water sediments.

2. U.S. EPA will review the SOWs for consistency with Superfund and will provide concurrence decision within 30 days of receipt.

3. IEPA will issue notice pursuant to Section 4 (q) of the State of Illinois Environmental Protection Act to the PRPs to conduct the activities described in the SOWs. The notice will be issued within two week of EPA concurrence with the SOWs. The Section 4 (q) notice will include:

    a. Copy of the U.S. EPA/IEPA-accepted SOWs;

    b. An outline of the elements necessary for a show of

good-faith to enter into negotiations with the State. The good faith demonstration should be received within 14 days and would include a plan to control dust at the facility and surface water discharge abatement; and

c. 60 days after receipt of the notice, negotiations must be concluded and an agreement in place. Such an agreement should include appropriate stipulated penalties for PRP non-compliance with the agreement.

4. Should the negotiations end without an agreement, the U.S. EPA would consider using federal enforcement authority to compel action at the Site.

5. U.S. EPA will monitor Site conditions and will take removal action should site conditions warrant.

6. IEPA will continue work on the referral to the State Attorney General regarding the PRPs violations of Water Pollution and Superfund Statutes, independent of the negotiations with the PRPs.

This approach (a) conserves Superfund resources since, if successful, PRPs would be funding removal and remedial activities, (b) provides an opportunity for the State to exercise its authorities, (c) establishes a deadlines by which voluntary action must be undertaken and (d) it preserves U.S. EPA's ability to take removal actions, if warranted.